



The Kasigau Corridor REDD Project Phase I Rukinga Sanctuary

Distinctive features

The “Kasigau Corridor REDD Project Phase I – Rukinga Sanctuary” Kasigau 1 is part of a two phase REDD project in Southeast Kenya. It has been developed by Wildlife Works Inc., which is based in California, US.

The project is implemented on land known as the Rukinga Sanctuary, which is wholly owned by the public company Rukinga Ranching Co., Ltd. The land was given to Rukinga Ranching Co. by the State under leasehold title that will be due for renewal in 2038. The idea of group ranches was developed by the State in response to overstocking and overgrazing. The government encouraged establishment of group ranches as means to make water infrastructure and other inputs for a viable ranching unit affordable. However, group ranches in the project area now hold no livestock and there are no economic activities on the land.



The land within the project is mostly covered by tropical dryland forest (Acacia-Commiphora dryland forest). The Project Area is home to a large diversity of mammals (over 50 species of large mammal, more than 20 species of bats), birds (over 300 species) and important populations of IUCN Red List species such as Grevy’s zebra (*Equus grevyi*), Cheetah (*Acinonyx jubatus*), Lion (*Panthera leo*) as well as over 500 African elephants (*Loxodonta africana*) seasonally. Rukinga Sanctuary qualifies as an area of High Conservation Values.

Deforestation in the project area is being driven primarily by conversion of forest to cropland for annual crops, typically maize, by two local tribal peoples. Illegal poaching of wildlife and charcoal production are also destroying the forests and wildlife.

The goal of Wildlife Works is the conservation of wildlife and nature on Rukinga Ranch and the surrounding area. Wildlife Works has had a wildlife conservation and land management operating agreement with the landowner, Rukinga Ranching Company Ltd., since 2005 and more recently acquired the carbon rights from the Company.



Wildlife Works began conservation activities centered around its ecofactory prior to 2005, but all activities were located outside the Project Area. Using carbon funds, Wildlife Works plans to continue and expand its current activities to conserve Rukinga Ranch. The project aims to avoid deforestation within the project boundary by controlling project lands through ranger patrols and relationships between Wildlife Works staff and members of surrounding communities. The project provides alternatives to subsistence agriculture to avoid leakage in the form of displacing land clearing from within the project boundary to outside the project boundary. The project activities include an organic clothing factory, a dryland farming initiative, a greenhouse and 5 nurseries in villages, providing elephant dung for women's mushroom farm, planting 20,000 indigenous hardwood trees in a high conservation value area, permanent ranger stations, a GIS centre of excellence, supporting ecotourism ventures to place young people at camp and train safari guides, funding students through secondary and tertiary education, setting up a school construction and maintenance fund, and setting up an organic handmade soap factory.

	Heading	Explanation
Locational factors		
	Location	Southeast Kenya
	Spatial boundaries	Project area: 30,166 ha (100% of the land known as Rukinga Sanctuary) Reference area: 329,022 ha Leakage monitoring area: 38,889 ha (forested areas as close as possible to the Project area which are subject to the same agents and drivers of deforestation as the project area) Leakage management area: [size not given in VCS PD]
	Land cover	Montane forest, Dryland forest, Savannah grassland, Agricultural encroachment Area
	Agents and drivers of forest cover change	Agents: Local Taita and Kamba people Underlying drivers: Population growth and in-migration; Unsustainable agricultural practices Proximate causes: Conversion of forest to permanent cropland for annual crops, typically maize
Basic project features		
	Objectives	<ul style="list-style-type: none"> ▪ Prevent CO2 emissions ▪ Bring financial sustainability to existing conservation project ▪ Prevent loss of biodiversity ▪ Expand influence of project over wider area through second project phase ▪ Manage the protection of over 500,000 acres of dryland forest ▪ Create alternative livelihoods and secure long-term community support for conservation ▪ Expand greenhouse and promote community-based nurseries to agricultural and fuelwood growing alternatives.
	Proponent/s	Wildlife Works, Inc. – REDD+ project development and management company
	Actors involved in project design and implementation and their roles	<ul style="list-style-type: none"> ▪ Wildlife Works – responsible for project implementation and support ▪ Rukinga Ranching Company Ltd. –holder of the legal title to all the land known as Rukinga Wildlife Sanctuary (which is all the land constituting the project area) ▪ EcoPartners – technical assistance
	Tenure and Carbon rights holder/s	Tenure: <ul style="list-style-type: none"> ▪ Privately managed under leasehold from Government to Rukinga Ranching Co. Ltd.; leasehold on the title due for renewal in 2038.; landowner is Rukinga Ranching

	Company. Carbon rights: <ul style="list-style-type: none"> ▪ Carbon rights acquired from landowner by project proponent.
Upfront financing	Wildlife Works Carbon, LLC a joint venture of Wildlife Works, Inc. and Colin Wiel Enterprises LLC
Start date	01 January 2005
Crediting period	30 years

Baseline emissions



Methodology	VCS 2007.1 / Sectoral Scope 14 VM0009 Methodology for Avoided Mosaic Deforestation of Tropical Forests
Reference data (unplanned deforestation/degradation)	Reference period: 1987-2004 Types of data used: Images between 1987-2009 used; mostly Landsat 7 –ETM, but also Quickbird-2 (multispectral).
Reference data (planned deforestation/degradation)	Not applicable
Stratification of project area	9 strata defined in Rukinga Ranch; 7 are forest strata
Deforestation rate and location	<p>Historical No information</p> <p>Projected 3.17% / yr (95% of project area deforested at project end)</p> <p>Likely baseline scenario Rapid deforestation by local tribal peoples to provide land for annual crops.</p> <p>Modelling procedure</p> <ul style="list-style-type: none"> ▪ Historic Imagery used to build a cumulative deforestation model. 2,000 sample plots inspected from the images to map land cover and track changes. Algorithm used to identify inconsistencies and systematic misinterpretation. ▪ Population census data considered as covariates to deforestation, but this did not inform the model. Deforestation thus projected solely from historical information using linear model ($y=0.031649x$, where x is number of days since the project start date, and y is proportion of area deforested).
Carbon pools	<p>Carbon pools included ✓ ✗</p> <ul style="list-style-type: none"> ▪ Aboveground tree biomass ✓ ▪ Belowground tree biomass ✓ ▪ Non-tree woody biomass ✓

	<ul style="list-style-type: none"> ▪ Litter ✗ ▪ Dead wood ✓ (only standing dead wood) ▪ Soil ✓ ▪ Wood products ✓ <p>Estimation method</p> <ul style="list-style-type: none"> ▪ Biomass plots used: 25m radius circle for large and small trees in Dryland Forest; 8m radius circle for large and small trees in Montane Forest; 15m radius circle for shrubs in Dryland forest; 4m radius circle for shrubs in Montane Forest; 1m x 1m x 4 square plots at each tree plot location for grasses. ▪ Systematic random plot sampling technique using 2 km X 2 km grid. ▪ Destructive sampling to develop allometric equations for species in Acacia-Commiphora woodland. ▪ Two sampling methods developed for shrubs. ▪ Soil carbon estimates derived from soil samples.
Carbon stock changes	<ul style="list-style-type: none"> ▪ All carbon lost from trees through burning. ▪ Only some of soil carbon lost; Loss determined through sampling forest soil in project area and farm soil outside project area.
GHG emissions	Only CO ₂ emissions included. Methane (CH ₄) and Nitrous Oxide (N ₂ O) conservatively excluded.
Net emissions without project	<ul style="list-style-type: none"> ▪ 1,450,329 tCO₂e (for first monitoring period)

Project GHG emissions reduction strategy



Scope	Scope Avoid unplanned deforestation
Activities	<p>Carbon finance is expected to support existing and planned activities, such as</p> <ul style="list-style-type: none"> ▪ Organic clothing factory ▪ Dryland farming initiative ▪ Expanding a greenhouse ▪ Establishing 5 nurseries in villages ▪ Providing elephant dung for women's mushroom farm ▪ Planting 20,000 indigenous hardwood trees in high conservation value area ▪ Adding a new permanent ranger station ▪ Establishing a GIS centre of excellence ▪ Supporting ecotourism ventures to place young people at camp and train safari guides ▪ Funding students through secondary and tertiary education ▪ Setting up a school construction and maintenance fund ▪ Setting up an organic handmade soap factory

Leakage mitigation strategy	<ul style="list-style-type: none"> ▪ Providing economic alternatives to the slash and burn agricultural practices ▪ Providing planned farm land of 5,000 ha to land cooperative for local people ▪ Expansion ranger patrols and engaging community ranger groups to patrol leakage area.
Non-permanence risk mitigation strategy	<ul style="list-style-type: none"> ▪ Not explicitly discussed
Additionality	<ul style="list-style-type: none"> ▪ Alternative land use scenarios: 3 identified. ▪ Investment analysis: Simple cost analysis finds no significant income to offset project costs ▪ Common practice analysis: It is not common practice for private companies that are not donor funded, such as the Project proponent to protect forested wilderness in Africa for financial return, in the absence of AFOLU revenues

With-project emissions



Effectiveness of measures	[Activities appear to be considered 100% effective in stopping deforestation in Project Area]
Carbon stock changes	Same as for calculations in baseline
GHG emissions	<ul style="list-style-type: none"> ▪ None (no fires or burning in Project Area in first monitoring period)
Leakage	<p>Types</p> <p>Activity shifting: Not expected. There exists no opportunity for the agents of deforestation to shift their activities outside the leakage area. 38 2 ha permanent sample plots established in leakage belt to monitor leakage.</p> <p>Market effects: Not expected.</p> <p>Deduction</p> <p>20% (conservative measure)</p>
Non-permanence risk	<p>Buffer</p> <p>20%</p>
Ex-ante estimated net greenhouse gas emissions reductions	<p>Total over crediting period: 4,525,767 tCO₂e</p> <p>Annual average: 150,858.9 tCO₂e.</p> <p>Annual average per ha: 5.00 tCO₂e</p>
Monitoring of carbon stock changes and emissions	<p><i>From first monitoring report</i></p> <p>Parameters</p> <ul style="list-style-type: none"> ▪ i. Parameters associated with soil carbon ▪ ii. Forest parameters

	<ul style="list-style-type: none"> ▪ iii. Area of stratum ▪ iv. Degradation in leakage area <p>Methods</p> <ul style="list-style-type: none"> ▪ i. According to SOP ▪ ii. PSPs ▪ iii. GIS ▪ iv. Sample plots following SOP <p>Frequency</p> <ul style="list-style-type: none"> ▪ i. Not given ▪ ii. 20% of total PSPs remeasured annually ▪ iii., iv. Each monitoring event
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Stakeholder identification and engagement



Stakeholders identified	No listing or classification of stakeholders, but described in narratives. Taita and Duruma people residing around project identified as main offsite stakeholders.
Identification process	No explicit description, though fact that Wildlife Works has been actively working with the local communities and other stakeholders in the project area for 10 years is stressed.

Full and effective participation



Access to information and consultation	<ul style="list-style-type: none"> ▪ Sought permission of local community and local authorities before beginning conservation project in 1998 ▪ Carbon rights transferred from Shareholders of Rukinga Ranching Company Ltd. to project proponent through full vote at AGM. This decision ratified unanimously by an extraordinary general shareholder meeting of Rukinga Ranching Company Ltd. at request of the CCB Validators. ▪ Numerous meetings with communities over 10 years on a wide range of subjects, e.g. schooling, conservation of community-lands, proposed environment clean-up day, community waste handling facility, etc. ▪ Training of communities on carbon markets ▪ Series of meeting with some Duruma who were heavily involved in poaching and illegal fuelwood and grazing.
Participation in design and implementation	<ul style="list-style-type: none"> ▪ Formal meetings to design some project activities, e.g. reforestation project. ▪ Communities participate through the provision of work and related activities from the REDD project. ▪ Local employment first policy - over 100 members of local community employed; only one expatriate and a few Kenyans from outside the project region with needed skills employed. Have trained local people and provided employment on sewing, local wildlife rangers, factory workers and supervisors, organic greenhouse

	workers, personnel managers and carbon inventory.
Feedback and grievance redress procedures	Open door policy; grievances received at any time; resolutions to be tracked. Formal Community Contact process developed. Conflict resolution process has been formalised and documented. Written responses provided within 30 days. 6 monthly meetings within community, alternating location between five main villages (attendance and results recorded and records made easily available)
Worker relations and safety	Wildlife Works operates within all local and national employment laws, is subject to audit from time to time by Government Employment Officer, and has passed all inspections, whether from local officials or International agencies such as Verite. Training is provided on safety and self-insured medical plan provided – covers all illness and injury of employees and their families, whether on-the-job or not. Hazard and mitigation plan developed and implemented.

Communities



Without-project scenario	<p>Narrative provided on background of Taita and Duruma communities, including their relationship with the land and living standards.</p> <ul style="list-style-type: none"> ▪ Standards of living remains low due to lack of employment opportunities and unsustainable relationship with land; Government rural land schemes likely to drive further deforestation and not raise living standards.
With-project scenario	<p>Expected net benefits</p> <ul style="list-style-type: none"> ▪ Financial benefits through jobs in tourism and at Wildlife Works, and through direct payments of carbon credits to neighbouring community ranch (Kasigau Ranch) ▪ Less need to engage in subsistence farming of high conflict crops such as maize <p>Possible negative impacts on other stakeholders and mitigation strategy</p> <p>None expected, though potential negative impacts based on feedback from communities are: potential increase in human-wildlife conflict; exclusive dependence on Wildlife Works for livelihood; need for grazing within the community; need for alternative farmland for people who decide not to migrate to area because of the conservation project.</p>
Impact monitoring	<p>Indicators</p> <p><u>Success Metrics directly attributable to Wildlife Works</u></p> <p>Ecofactory: No. fulltime jobs; local employment; financial investment/return</p> <p>School construction and bursary scheme: No. bursaries;</p>

Investment in school construction

Organic greenhouse: No. fulltime jobs; local employment; financial investment/return; New greenhouses; trees propagated; seedlings sold

Jojoba/Dryland Farming Project: No. fulltime jobs; local employment; financial investment/return; Income.

Soap Factory Expansion: No. fulltime jobs; local employment; financial investment/return

Ecotourism: No. fulltime jobs; local employment; financial investment/return; No. youths trained

Project Product Marketing and sales: No. fulltime jobs; local employment; Sales.

General Success Metrics Influenced by but not directly attributable to Wildlife Works

Education: No. children in each school; grades of children in national exams and position in district by school; no. children securing places in secondary school

Household income: Average household income – dry and wet season

Methodologies

Data recorded and reported as part of regular project activities. Participatory rural appraisal used to assess community well-being.

(Note: Socio-economic impact of conservation project on communities conducted by proponent in 2007. Semi-random survey using field-tested questionnaire covering 5 villages. Variables: Support from proponent; Employment from proponent; type of house; access to water and electricity; sanitation; diet; perception of life quality; household economics - status and change in livelihoods, assets; impact of proponent on education; conservation knowledge; proponent impact on human-wildlife conflict; change in game meat availability due to proponent; shops and support organisations in community; community groups and proponent impact on community collaborative activities; working style between proponent and community; proponents impact on gender relations; advantages and disadvantages of proponent; recommendations for proponent.)

Frequency

Varies: E.g.

Sales of products from the project – daily

Payroll, community investments (no. greenhouses. Etc.) – monthly

Summary of all project data collected – yearly, provided in CCB and VCS verification reports

Surveys of community well-being – every two years

Population data –10 year national census

Biodiversity and ecosystem services



Without-project scenario	<p>Assessment based on literature on birds of Kenya and African mammals; field data collected during earlier studies in project area (by Earthwatch researchers); and wildlife numbers observed by Wildlife Work's ranger patrols (daily reports)</p> <ul style="list-style-type: none"> ▪ Deforestation for annual crops and bushmeat trade greatly reduces wildlife populations
With-project scenario	<p>Expected net benefits</p> <ul style="list-style-type: none"> ▪ Return of mammals, high conservation value and other species (already observed); ▪ Protection of dryland forest; ▪ Establishment of planted forest of indigenous species. <p>Possible negative offsite impacts and mitigation strategy</p> <p>None.</p>
Impact monitoring	<p>Indicators</p> <p><u>Success Metrics directly attributable to Wildlife Works</u></p> <p>Forest and Biodiversity Monitoring: species population statistics (including HCV species); no. poaching incidents; no. cattle grazing incursions; no. charcoal, fuelwood or construction material incursions; acres reforested in community land;</p> <p>Carbon Project Leakage Mitigation: Dryland Forest Acres protected;</p> <p><u>General Success Metrics Influenced by but not directly attributable to Wildlife Works</u></p> <p>Support for Conservation: Environmental conservation support from the community</p> <p>Project Broad Environmental Impact: Project Popularity in Reference Region</p> <p>Methodologies</p> <p>Sightings, snares found, poaching arrests, dead animals found by rangers; Counting of species planted and survival rates, etc.</p> <p>Frequency</p> <p>Varies: E.g.</p> <p>Species Population Statistics –daily</p> <p>Dryland Forest Acres protected – annually</p>

Progress



Validation	<p>VCS validation report issue date: 03 02 2011</p> <p>CCBA validation report issue date: 22 12 2009 (Gold level)</p>
Verification	<p>VCS verification period and report issue date:</p> <p>01 January, 2005 to 31 December, 2010; 3 February, 2011</p>

	<p>1 January 2011 to 31 December 2011; 29 November 2012</p> <p>1 January 2012 to 31 December 2012; 22 May 2013</p> <p>CCBA verification period and report issue date:</p> <p>01 January, 2011 to 31 December, 2011; Dec 05, 2012 (Gold level)</p> <p>01 – January 2012 to 31 – December 2012; May 23, 2013 (Gold level)</p> <p>01 – January 2013 to 31 – December 2014; Sep 15, 2015 (Gold level)</p>
Credits issued	<p>Number: 1,484,858</p> <p>As of: 21 February 2016</p>

Further information



- VCS Project Database:
<https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp?Tab=Projects&a=2&i=562&lat=-3%2E5915&lon=38%2E79761&bp=1>
- CCBA Projects
<http://www.climate-standards.org/?s=kasigau>

Documents reviewed

VCS and CCBA websites: PD, PDD, Validation, Monitoring and Verification reports